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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,228	10/22/2003	Yasunori Fukumitsu	59807(47793)	6198
21874	7590	07/14/2005	EXAMINER	
EDWARDS & ANGELL, LLP			FRANKLIN, RICHARD B	
P.O. BOX 55874			ART UNIT	
BOSTON, MA 02205			PAPER NUMBER	

2182

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,228

Applicant(s)

FUKUMITSU ET AL.

Examiner

Richard Franklin

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. Claims 1 – 5 have been examined.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The Information Disclosure Statement form PTO-1449 (IDS) filed on March 18, 2004 does not list the correct Serial Number for this application. The Serial Number listed is "10/649,258" while the serial number for this application is "10/649,228." The transmittal that was submitted with the IDS does list the same Serial Number as that of this application. Also, the Attorney Docket number on the transmittal and the IDS are the same. Because of this, it is assumed that the IDS filed on March 18, 2004 is intended to be filed with this application and the Serial Number that is listed on the IDS is an error and is intended to be that of this application, 10/649,228.

Drawings

4. Figure 13 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "I/F Block 271". Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1 and 2 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 3 of copending Application No. 10/649,578. Although the conflicting claims are not identical, they are not patentably distinct from each other because the application No '578 discloses all the limitations except "external memory." However, it would have been obvious to one skilled in the art to recognize that the "system memory" of application No. '578 serves the same purpose as the "external memory" of this application.

Further, the organizational elements in the claims and their functionality are merely obvious variations of each other. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify claims 1, 2, and 3 of copending Application No. 10/649,578 to include "system memory" instead of "external memory" as claimed in claims 1 and 2 of this application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Specification

7. The abstract of the disclosure is objected to because it is more than 150 words or over 25 lines. The total word count is 155 words. Correction is required. See MPEP § 608.01(b).

8. The disclosure is objected to because of the following informalities:

- Paragraph [0061] line 3: "6 bytes register" should be "6 byte register."
- Paragraph [0079] line 4: There is no "Fig. 12" but there is figures 12A-D.
- Paragraph [0088] lines 4-5: $FDH \neq 254$. $FDH = 253$. Therefore the equation " $(257-254 = 3)$ " should read " $(257-253 = 4)$."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 2, 3, and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per Claim 2, the phrase "performed per one clock synchronizing with an operation clock" is not understandable in the context of the claim to one who is of ordinary skill in the art making the claim unclear and indefinite. Also, there is no explanation of an operation clock.

As per Claim 3, there is no transition into the phrase "each other by one clock" leaving the claim not understandable to one who is of ordinary skill in the art and making the claim unclear and indefinite.

As per Claim 4, it is unclear and indefinite because it is dependent on Claim 2 or 3, and hence, inherits their indefiniteness.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1 and 5 are rejected under 35 U.S.C. 102(e)(2) as being anticipated by Lapstun et al. US Patent No. 6,687,022.

As per Claim 1, Lapstun et al. teaches an apparatus for transferring inkjet printer data. The apparatus consists of a decoder that decompresses compressed image data (Col. 28 line 19 – Col. 33 line 41, Figure 19). Lapstun et al. also describes a double buffering scheme that is used to hold line data (Col. 37 lines 9 – 25, Figure 29, Figure 30). Lapstun et al. describes that the compressed data input to the decoder is done through a compressed data format bit stream (Col. 28 lines 21 – 25, Figure 19). Lapstun et al. describes that while data is being written to one buffer of the line buffer, data that is already loaded in the second buffer of the line buffer is being sent to the print head interface. Lapstun et al. also teach that once a full line of data has been sent to the print head interface, the reading and writing operations swap buffers, so the first buffer is being read from and the second buffer is being written to (Col. 37 lines 9 – 25, Figure 26).

As per Claim 5, Lapstun et al. teaches the devices described above in for use in a printing apparatus (Figures 3 – 8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lapstun et al. US Patent No. 6,687,022 as applied to Claim 1 above, and further in view of Kozierok (www.PCGuide.com).

Lapstun et al. teaches an apparatus for transferring inkjet printer data. The apparatus consists of a decoder that decompresses compressed image data (Col. 28 line 19 – Col. 33 line 41, Figure 19). Lapstun et al. also describes a double buffering scheme that is used to hold line data (Col. 37 lines 9 – 25, Figure 29, Figure 30). Lapstun et al. describes that the compressed data input to the decoder is done through a compressed data format bit stream (Col. 28 lines 21 – 25, Figure 19). Lapstun et al. describes that while data is being written to one buffer of the line buffer, data that is already loaded in the second buffer of the line buffer is being sent to the print head interface. Lapstun et al. also teach that once a full line of data has been sent to the print head interface, the reading and writing operations swap buffers, so the first buffer

is being read from and the second buffer is being written to (Col. 37 lines 9 – 25, Figure 26).

Lapstun et al. do not teach the DMA-transferring of data from the outputting face of the buffer to the print head interface or external memory.

Kozierok (www.PCWorld.com) teaches that the use of DMA-transferring of data to peripheral devices is a way to remove the system processor from the data transferring operation, leaving the system processor to perform other operations during the DMA-transferring of data. Kozierok discloses that this leads to an increase in performance.

As per Claim 2, it would have been obvious to one of ordinary skill in the art to utilize the DMA data transferring operation described by Kozierok in the line buffer and print head interface of Lapstun et al. to eliminate the need for the processor to control the data transferring operation to allow for an increase in performance of the system.

As per Claim 3, it would have been obvious to one of ordinary skill in the art to include a means for changing the first buffer face from reading to writing and the second buffer face from writing to reading in the environment of Claim 2 because Lapstun et al. disclosed that the operation would take place (Col. 37 lines 9 – 25, Figure 26).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Franklin whose telephone number is (571)272-0669. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on (571)272-4083. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Franklin
Examiner
Art Unit 2182

A handwritten signature in black ink, appearing to read "Samuel", is written in a cursive style.